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## The Northwest Iowa ICN Co-op: A model for small schools

Cheryl Lynne Mullenbach  
*Iowa State University*

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# The Northwest Iowa ICN Co-op: A model for small schools

by

Cheryl Lynne Mullenbach

A thesis submitted to the graduate faculty

In partial fulfillment of the requirements for the degree of

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This is to certify that the Master's thesis of  
  
Cheryl Lynne Mullenbach  
  
has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy

**DEDICATION**

I dedicate my completed thesis to my family. My parents, brothers, sisters-in-law, nieces, nephews and husband all influenced me in different ways. With their support and encouragement I've been given the freedom to do what I love—read and learn.

**TABLE OF CONTENTS**

|  |    |
|--|----|
| CHAPTER 1. INTRODUCTION                              | 1  |
| CHAPTER 2. LITERATURE REVIEW                         | 6  |
| CHAPTER 3. METHODOLOGY                               | 28 |
| CHAPTER 4. RESULTS                                   | 32 |
| CHAPTER 5. DISCUSSION                                | 43 |
| APPENDIX A. NORTHWEST IOWA ICN CO-OP MEMBERS         | 50 |
| APPENDIX B. NORTHWEST IOWA ICN CO-OP SCHEDULE        | 51 |
| APPENDIX C. SURVEYS                                  | 54 |
| APPENDIX D. PERMISSION FROM HUMAN SUBJECTS COMMITTEE | 57 |
| APPENDIX E. LETTER OF INTRODUCTION TO ADMINISTRATORS | 59 |
| APPENDIX F. CONSENT FORM                             | 61 |
| REFERENCES   | 64 |

## CHAPTER 1: INTRODUCTION

Iowa's small rural schools are facing an uncertain future as student populations decline and the pool of certified teachers dwindles. The Rural School and Community Trust, a nonprofit educational advocacy organization, "...see(s) the need for a rural school policy in Iowa as critical." in its August 2000 report on the condition of rural education in the United States. (Beeson and Strange, 2000).

The findings come as no surprise to Iowa's education policymakers. The state's education director, Ted Stilwill, in an *Iowa Press* interview has called for changes in small high school programs to increase access to a broad spectrum of educational opportunities and increase efficiency (Huey, 2000). But as *The Des Moines Register* predicts, "...the idea seemed likely to appeal to rural Iowans like a manure spill into a local creek." ("Toward Regional High Schools," 2000).

One hundred and twenty-five high schools in Iowa have fewer than 200 students. (Huey, 2000). This suggests challenges for the administrators and residents of these smaller districts. Students are limited in course offerings; administrators struggle to find teachers to teach higher level courses; teachers' salaries lag behind counterparts' salaries in urban schools.

Creative solutions to the challenges of quality and efficiency faced by Iowa's small rural districts are being explored. The situation is so urgent that the state legislature has appropriated \$200,000 to the Iowa Department of Education to implement pilot regional academies in Iowa. Grants of \$10,000 each to 15 districts will provide impetus for local schools to explore creative strategies.

### Statement of the problem

The Iowa legislature, the media and the director of the Department of Education are calling for creative solutions to the issues of quality and efficiency confronted by small rural school districts. (Beeson and Strange, 2000; Huey, 2000; “Toward Regional High Schools,” 2000). The 2000 Legislature appropriated grant monies for districts to pilot the concept of high school regional academies. Regional academies are defined by the Legislature as entities that “...provide high school students with advanced level courses and technical courses not currently available within the curriculum in their district of attendance” (HF 2549). Discussion of regional academies and other distance learning constructs that attempt to address small school issues prompts concerns about the quality and benefits of distance education to resurface.

Discussions of issues surrounding small rural high schools and the search for creative strategies which ensure quality, opportunity and access prompts the investigation of existing programs. Distance learning consortia and models that fit the regional academy definition (as defined by the Iowa Legislature) are functioning in small rural school districts in Iowa. This study will explore the perceptions of students and parents about issues surrounding shared Iowa Communication Network (ICN) classes in a distance learning consortium in northwest Iowa.

### Purpose of the study

The purpose of this study was to explore the attitudes of students and parents who participate in a consortium of small school districts that share classes via the ICN. The information gathered will be useful for administrators, educators, policymakers and

community members as they grapple with issues facing small rural school districts. Can the formation of distance learning consortia offer viable solutions for other small districts in Iowa? Might the Northwest Iowa ICN Co-op serve as a model for other small districts as they confront issues surrounding consolidation? What attitudes and perceptions might policymakers confront as new models evolve?

### Rationale for the study

The rationale for this study stems from recent discussion in the media and concerns among educators and policymakers. Schools in the state are facing a crisis. Parents, teachers, administrators, students and concerned citizens are searching for answers to a growing predicament. While *one simple* solution to the state's education dilemma is not anticipated, the search for successful models is underway.

Discussion about the lack of educational opportunities for rural students is not a new phenomenon to Iowa's school systems. Throughout Iowa's history, the state's educational system has been called upon to combine or share resources for the sake of efficiency and effectiveness. Traditionally, that has led to consolidation. Perhaps for the first time in the state's history, there may be an alternative for small districts that struggle to maintain their local schools. The advent of distance learning technologies offers innovative options.

The formation of distance learning consortia and/or regional academies is one option that districts perceive as a viable enhancement of educational opportunities in small rural districts. Educators and policymakers look to experienced distance educators for successful models that may be replicated. As the models are studied, much can be learned by paying attention to attitudes of students and parents who participate in a distance learning consortium.



Limited research has been completed on distance learners at the high school level. Little has been studied about the *attitudes* of high school distance learners and their parents. The circumstances surrounding the development and implementation of the Northwest Iowa ICN Co-op and the attitudes of the students and parents will be useful to other districts that are looking for a “road map.” The data gathered will also be useful to administrators and decision makers *within* the Northwest Iowa ICN Co-op as they expand their course offerings and membership.

### Research questions

As small school districts seek and develop strategies to ensure quality and provide access to opportunities, they should build on foundations established by forward thinking innovators. An awareness of issues, attitudes and perceptions surrounding distance learning will equip policymakers with useful data to aid distance learning consortium building. The research questions proposed in this study were designed to explore students’ and parents’ overall attitudes about participation in an ICN distance learning consortium and attitudes about the quality of education and access to educational opportunities in small rural school districts as a result of a distance learning consortium. The research questions investigated in this study were:

1. What are students’ attitudes about the benefits and quality of shared (ICN) consortium classes?
2. What are students’ perceptions about their relationships with the teacher and peers in shared (ICN) consortium classes?
3. What are students’ perceptions about the interest shown by their parents and peers in shared (ICN) consortium classes?

4. What are students' perceptions about college preparation as a result of the shared ICN classes?
5. What are students' perceptions of the distance classes as enhanced educational opportunities?
6. What are parents' attitudes about the benefits and quality of shared (ICN) consortium classes?
7. What are parents' attitudes about the need for limitations on the extent and makeup of shared (ICN) consortium classes?
8. What are parents' attitudes about compensation for teachers in shared (ICN) consortium classes?

## **CHAPTER 2: LITERATURE REVIEW**

Expansion, organization, reorganization and consolidation have been a part of the educational landscape since the inception of Iowa's earliest schools in the 1830s. In 1839 the territorial government passed a law requiring each county to open a public school. In 1858 the state legislature mandated the organization of schools by townships. Nine schoolhouses were built in each township. By the 1890s there were 14,000 one-room schools in Iowa. In 1902 the compulsory education law required children between the ages of 7 and 14 to attend school. At one time Iowa had more one-room schools than any state in the country. That all changed in 1965 when the Iowa legislature passed a law ordering all schools to become part of a legal school district with high schools. By 1967, one-room schools in Iowa were a part of the state's history (Ruth, 1994). School consolidation efforts resurfaced again in the 1990s when 41 school districts in the state "restructured" – the "largest number of high school district mergers since 1962." (Ghan, 1990)

Ten years later, state education officials are offering incentives again for strategies that will ensure quality and efficiency in Iowa's schools. Whether labeled "consolidation," "restructuring" or "reorganization" the idea is to merge resources for more efficient education. In the year 2001 "regional academies" are being proposed. Legislation passed in 2000 states that "The department [of Education] shall establish pilot regional academies in cooperation with school districts, area education agencies and post-secondary institutions" (HF 2549). Officials are looking to regional academies as enhancements to existing school programs – strategies that will ensure quality education programs and access to opportunities.

Through a grant application process, the Department of Education has awarded \$150,000 to 15 consortia. Each consortium has received \$10,000 to design an academy

program that will “...provide high school students with advanced level courses and technical courses not currently available within the curriculum in their district of attendance.” (HF 2549). Submitted applications represent an array of proposals: variations of plans to develop vocational/technical academies and Advanced Placement academies. All involved establishments of partnerships among school districts, community colleges, Area Education Agencies (AEA), and/or private companies. Many applications cited use of distance learning technologies including the Iowa Communications Network as a delivery method. Applicants cited the recurring challenges faced by small districts: the high costs involved in offering technical courses, teacher shortages and the need to offer broader and deeper curricula. (Pfitzenmaier, 2000).

What constitutes “small” in the discussions surrounding school size? Haller, Monk, Spotted Bear, Griffith and Moss (as cited in Roelke, 1996) cite high schools with 100 to 200 students as “small.” Fewer than 400 pupils in grades 9-12 has been suggested (Roellke, 1996). The Cross City Campaign for Urban School Reform (Fine and Somerville as cited in Raywid, 1999) set the limits at 500 students for high schools; and Lee and Smith (as cited in Raywid, 1999) cite 600-900 students.

By any definition, Iowa, with nearly 60 percent of its high schools enrolling less than 300 students, is a plethora of small schools (Iowa Department of Education, 2000). Since the 1972-73 report, public school enrollment in Iowa has declined by 23 percent or by 147,000 students. The numbers have prompted state officials to offer incentives to schools seeking ways to expand curricular offerings by sharing high school students (HF 576 2001 Iowa Legislative Session).

A mass of research exists which supports the effectiveness of small schools. (Lee & Smith; McMullan, Sipe, & Wolf; Pittman & Haughwout; Stockard & Mayberry; Cotton; Gladden as cited in Raywid, 1999). Howley (as cited in Raywid, 1999) produced research linking academic achievement directly to school size. Lee and Smith (as cited in Raywid, 1999) offer research that suggests students learn more and better in small schools; Stockard and Mayberry (as cited in Raywid, 1999) make the claim that small schools experience fewer behavior problems. Yet research also cites problems facing small school districts including: high building maintenance costs; high per pupil costs; geographic isolation; shortage of teachers; low teacher salaries; breadth of curriculum, specialized services and extracurricular opportunities (Roellke, 1996; Barker & Hall, 1993; Beeson & Strange, (2000). And recent data from the Iowa Department of Education shows students in small schools lag in test scores below moderate-sized districts (Iowa Department of Education, 2000).

To offset the challenges faced by small schools, small school alliances have formed around the country. In Montana the Montana Small Schools Alliance was created in 1996 to provide efficient and effective use of partnerships among the state's small school districts, Montana State University and other education groups. Program for Rural Services and Research (PACERS) is an association of small schools located in rural communities in Alabama. A liaison between the schools, lawmakers and organizations associated with small schools formed in Nebraska to create the Panhandle Center for Rural and Small School Education. The Pennsylvania Association of Rural and Small Schools (PARSS) was created in 1984 to represent the interests of small schools to the General Assembly.

Many of Iowa's small schools face the challenges cited above. Rural Iowa is peppered with small school districts. According to the Rural School and Community Trust,

one-third of Iowa's students are in rural areas and almost 18 percent of rural students attend small schools (Beeson and Strange, 2000). In an August 2000 report the Trust states that Iowa's teachers are among the lowest paid in the United States and that Iowa has a "significant percentage of out-of-field teachers." According to a *Des Moines Register* article, Ted Stilwill, Iowa's director of the Department of Education, stated that the state's small schools must look for ways to create greater efficiency and increase opportunities (Krantz, 2000). According to an *Iowa Press* interview Stilwill maintains that small districts could share administrative operations, adjust staff ratios and become more efficient by sharing classes among districts (T.Stilwill, personal communication, April 9, 2001).

As in other states, small schools in Iowa have sought means to solidify their positions. Through the establishment of alliances and partnerships, Iowa's small school districts have explored creative solutions to alleviate the pressures of small school existence, to offer quality programs, and expanded curricula.

In an unscientific survey conducted through phone calls by Iowa Public Television staff to high school administrators, a wide range of shared situations among small school districts was revealed. All across the state, teachers travel between districts to share their expertise, students drive to neighboring districts and community colleges to take advantage of classes not offered in their home districts, athletes overcome previous rivalries to share sports programs (Pfitzenmaier, 2000).

Not only are local districts sharing staff and resources; many districts take advantage of resources offered to them by the community colleges. Through post secondary enrollment options courses, high school students are offered courses that they would not have access to within their local districts. Students travel to local "hubs" or to the community college

campus. Community colleges increasingly utilize distance learning technologies to offer courses to high school students.

With the advent of distance learning technologies such as the Iowa Communications Network (ICN) Iowa's small schools are in a position to explore opportunities that were formerly unavailable. The ICN may offer Iowa's small school districts options that will ensure quality education, improve access and increase educational opportunities. Through the use of the ICN, some of the issues facing small schools are minimized. The fiber optic system allows several schools to share teachers, reduce geographic isolation and expand the depth and breadth of curriculum.

Across the state, school districts utilize the ICN for a variety of activities. Increasingly small districts use their ICN classrooms to share classes within their regions and statewide. One teacher at an origination site reaches students at several remote sites. Several districts can reap the benefits of one teacher's expertise. Small school districts that previously could not offer high level math and science classes and advanced placement courses can now offer these opportunities to students. A district with only one or two students interested in taking a foreign language can provide the opportunity without investing in a fulltime teaching position.

One group of 10 schools in northwest Iowa has gained recognition in terms of pooling resources. In 1996 the Northwest Iowa ICN Co-op was formed when four small districts teamed to offer classes on the ICN. This partnership became the Northwest Iowa ICN Co-op. In 2001 the consortium consists of ten districts (Appendix A). The enrollments of grades 9-12 range from 123 to 306. (Iowa Department of Education, 1999-2000 Certified Enrollment Statistics.)

Initially an administrator from one of the districts sent a letter to other administrators in the region suggesting the idea of sharing classes via the ICN. A meeting of interested administrators was subsequently called and the seeds were planted. In the early stages the administrators met several times a year. Now the consortium has a life of its own. Administrators meet once or twice a year to hammer out courses that will be offered, times, and origination/remote sites. A master schedule is produced and posted on a Web site: ([www.woodbury-central.k12.ia.us/icnclass.htm](http://www.woodbury-central.k12.ia.us/icnclass.htm)) (Appendix B).

Financing the consortium is simple. As stated in a February 1999 *Education Week* article, "Any school that provided a course, free, to the others would be entitled to any and all other courses at no expense. Their only cost would be the ICN's hourly line charge." ("Going the Distance," 1999).

The numbers and titles of classes vary from semester to semester, but in the spring of 2001 eleven classes were offered with over 150 students from nine districts participating. Twenty-eight sections of a variety of classes are offered. Nine districts are active in the consortium, with a tenth in hiatus until technical problems in the ICN classroom are solved. An eleventh district is scheduled to join the consortium in the 2001-02 school year.

According to administrators who are involved, the consortium has been successful because the districts are willing to be flexible with bell schedules and the administrators believe in the benefits of distance learning. One administrator states, "It's a very viable, worthwhile program." (C. Wisniewski (personal communication, September 2000).) And another: "It makes so much sense to be sharing. All of a sudden, I can offer one course and get seven back." ("Going the Distance," 1999).



As school administrators and policymakers explore alternatives to traditional education systems and adoption of distance learning as one solution to small school problems research shows they are wise to garner support of stakeholders. As Cassidy and Lane (1994) state it, "The involvement of administrators is a given in the process, but teachers, staff, students, and the community served by the educational organization should be involved in the planning and implementation process at every level in order to ensure a successful adoption." Pearson (as cited in Cassidy and Lane, 1994). recognized the importance of inclusion of students, "the public" and "supporters" when she identified 20 critical factors that must be implemented in order to have a successful adoption of distance learning.

Two vital stakeholders in the adoption of a distance learning consortium are students and parents. It should be obvious that students are major stakeholders in the process. And the research shows that administrators, as well as students, perceive *parents* as having a stake in their child's distance learning experiences and opportunities. In Iowa especially, where small schools take pride in local control, it may be important for policymakers to become aware of students' and parents' attitudes as they relate to the formation of ICN distance learning consortia. Discussions that recur in the distance learning literature cluster around: the quality and benefits of distance courses, student-teacher and student-peer relationships in distance courses, restrictions that should be placed on participation in distance courses and compensation for teachers of distance courses.

As those discussions persist, administrators and policymakers pursue data that will reveal the attitudes and perceptions of stakeholders. Not only should those who are planning and implementing *new* consortia assess attitudes, but as Pearson (as cited in Cassidy and Lane, 1994) points out, the critical factors that lead to the adoption of distance learning

programs should be considered "...prior to, during and following implementation of the program at the educational organization."

In 1997 the Wyoming Department of Education conducted a study of a distance learning pilot project before implementing the project on a statewide basis. In the executive summary, attitudes and perceptions of participants about a number of issues were studied. Variables that Wyoming officials were concerned with included: types of students, interaction and contact, collaboration between sites, attitudes of participants, and community involvement.

The Wyoming (1997) study found that 61 percent of students agreed or strongly agreed with the statement that students learned as much in a distance learning course as they would in a regular classroom. In the same study, although almost all students responded favorably to the question about their satisfaction in their distance learning class; many qualified their response by saying they still thought the face-to-face classroom was better (Wyoming, 1997).

Hartz (1983) reported over 70 percent of the remote site students in his evaluation of a two-way television project in Wisconsin indicated that they thought they learned as much in a two-way distant course as they would have learned in a traditional classroom.

In Allen and Carl's 1988 study of a distance learning project in Texas, students' perceptions about the quality of a distant Health Care Science class revealed satisfaction on the part of the students. Students were given a pre-course survey which assessed attitudes regarding each instructional technology that was utilized (print, audioconferencing, electronic mail, computer-assisted instruction and videotapes) and attitudes toward traditional

versus technologically delivered instruction. The findings indicated that students held positive attitudes toward both the technology and the use of distance learning.

In the Allen and Carl (1988) study students were asked to complete a post-course questionnaire which evaluated their attitudes toward the effectiveness of distance learning and their attitudes toward receiving further instruction through distance learning. Conclusions were drawn that students maintained a strong positive attitude toward learning through a distance learning system both *before* and *after* completion of the course. Implications drawn from the study indicated that distance learning opportunities should be expanded to other academic areas in the state, and that such opportunities meet the mission of the State Board of Education for quality, equity and accountability.

One criteria that consistently appears in studies about student satisfaction with distance learning courses is the relationship and amount of interaction between students and teachers. Moore (as cited in Bischoff et al. 1996) discusses student-teacher interaction in the distance learning environment in his definition of “transactional distance.” He defines transactional distance: “the perceived interpersonal closeness between teacher and student...as perceived by the student respondents.” Building on Moore’s definition Bischoff, Bisconer, Kooker, and Woods (1996) found student-teacher communication was greater among participants in distance-format courses and that students in both distance and traditional course settings felt similarly close to the teacher and other students. (Bischoff’s et al. subjects were graduate students. Little research exists on transactional distance with high school distance learners.)

Schoenfelder (1997) studied Iowa high school students enrolled in a pilot ICN course to assess their attitudes about what makes for effective instructional methods. The student-

teacher relationship was perceived as key. The instrument used in the study was developed using questions from surveys of other interactive television courses, and the results indicated that additional research of students' attitudes would be useful for future distance learning courses.

Kruh and Murphy (1990) have presented research that offers public schools strategies for increasing and optimizing student-teacher interaction in the distance learning environment. They point out that interactive participation between students and teacher foster higher level thinking skills such as problem solving and constructive criticism of solutions. Ross, Morrison, Smith, and Cleveland (1991) also studied distance learners to learn what issues were important. In a study of elementary students using two different formats of distance learning, Ross et al. concluded that students perceived the format that allowed more interpersonal communication between student and tutor as more beneficial to learning. Witta (1999) found positive attitudes by students when asked about the quality of teacher interactions in a distant course.

In the 1997 Wyoming study, students who gave an overall positive endorsement of their distance learning pilot project, perceived the student-teacher interaction as highly effective. Fifty-four percent of the students cited their distance learning teacher as the person who they went to for help in their distance course. Seventy percent agreed or strongly agreed that the distance learning course allowed for adequate interaction between the students and the instructor. Seventy-eight percent agreed or strongly agreed that they could easily ask questions of their distance learning teacher **during** class. In fact, the Wyoming study concluded that one of the benefits of the distance learning pilot project was the opportunity for students to be exposed to different teachers outside of their local districts.

Hammond (1999) found that high school distance learners in Utah were frustrated by the amount of student-teacher interaction allowed in their distance course. When asked what they would change about the teaching style of their teacher in the course, the most frequent response was “more interaction.” The quality of the student-teacher relationship was cited by 13 percent of the students when asked what they would change in the course.

The Texas Health Care Science distance course survey found that students at remote sites did not feel the need for an *on-site* teacher (Allen and Carl, 1988). Students stated that the presence of a site manager was not necessary. As Allen and Carl point out, this attitude may be attributed to the natural autonomy displayed by high school students in general, rather than students’ satisfaction with their relationship with the teacher at the origination site.

Distance education researchers also indicate that high school students place a high level of importance on interaction with peers when evaluating the overall quality and benefits of distance learning. In the Wyoming Department of Education study (1997), students cited “outside interaction with people who were not from their local area” as one of the reasons they enrolled in the distance learning courses. Twenty-four percent of the students mentioned the opportunity to have “interaction with other kids” as a reason for enrolling in the distant learning course. Follow-up questions at the end of the course elicited similar responses: “... when asked what they had enjoyed most about the compressed video, the most frequently cited response from students was that they enjoyed meeting and interacting with people from other areas.” Seventy-three percent of the Wyoming students agreed or strongly agreed that the distance learning course allowed adequate interaction with other students.

The Wyoming research concluded that one of the most important contributors to the success of the pilot project was the high level of cooperation and collaboration among the sites. The study concluded that fostering contact between sites leads to a higher level of student satisfaction. The Wyoming education department findings included one perceived benefit of the distant learning course was the opportunities allowing for friendships and interaction to develop across district lines.

Allen and Carl (1988) elicited responses in the Texas study that indicate students place a strong emphasis on the importance of social interactions. When asked to identify lasting benefits of the distance learning Health Care Science course, students mentioned the lasting friendships that evolved with students at remote sites.

Moore (1993) states that the interdependence distance learners feel is one benefit of the distance learning environment. According to Keegan (as cited in Moore, 1993), the media permits learners to act as resources for their peers. He writes, "It has been a consistently observed phenomenon that students report pleasure at the interdependence they develop in teleconferencing."

Bischoff et al. (1996) reported that the graduate students in distance and traditional courses felt "similarly close" to other students. As mentioned above Bischoff et al. found distance format courses did not differ from traditional courses in terms of transactional distance. Moore describes transactional distance: "the perceived interpersonal closeness ... among students... as perceived by the student respondents" (Moore, as cited in Bischoff et al., 1996).

One challenge faced by small districts is the inability to offer students college prep courses. In some cases higher level courses are not offered, or out-of-field instructors teach

them (Beeson, E., & Strange, M. (2000). Distance learning opportunities offer small districts the opportunity to add depth and breadth to their curricula.

The addition of depth to the curriculum is one feature that attracts students and parents to distance learning courses. The Wyoming (1997) study mentioned the expanded curriculum as a benefit of their distant courses. When students were asked to list reasons for enrolling in the distance learning course, 21 percent said for college and high school credit. Fifty-two per cent said they enrolled in the distance courses because they were interested in the subject matter; 43 per cent stated that they enrolled because the course had previously been unavailable to them; 36 per cent wanted to be challenged; 24 per cent wanted to have the interaction with other kids. Overall, the attraction of the expanded curriculum was an enticement for enrollment.

Hobbs and Osburn (1988) found that the schools investigated in their study acquired distance learning technologies primarily to offer advanced level courses to students. One hundred percent of the administrators in the study predicted a future role for distant technologies for the purpose of offering an expanded curriculum. Fifteen percent of the students in the study cited college preparation as the reason for enrolling in the distant course. Parents in the study apparently did not perceive the distant course as a contributor to college preparation. Only four percent of the parents cited college preparation as a benefit for the distant course.

Although college preparation was not specifically mentioned in Barker's (1993) study of administrators, they did cite the need for distance technologies in order to support foreign language and advanced math and science courses. Earning dual high school and college credit was a major motivator for Utah students in the Hammond (1999) study. Forty-four

percent of the high school students reported the opportunity to earn dual high school/college credit as a motivator for enrolling in a distant class. The Wisconsin consortium studied by Hartz (1983) cited the need to offer students advanced level and foreign language courses also – again, not a specific reference to college preparation, but implied. Pamerleau (1996) also discussed the lure of advanced level high school courses through two-way television as an attraction for students.

Educators and policymakers can learn from the data that has been gathered on parents' attitudes and perceptions of distance learning also. As is the case with distant learners at the high school level, attitudinal studies of *parents* of children in distance learning courses are scarce. However, researchers have not ignored the influence parents have on distance learners and the role parents play in the adoption of distance learning programs.

While most schools rely on school district funds for support of advanced telecommunications, The National Center for Education Statistics (1997) refers to the influence of *parents* on advanced telecommunications in the nation's public elementary and secondary schools. According to the report, 18 percent of the schools surveyed indicated that parents or other community members supported advanced telecommunication in the school *with funds*.

Hobbs and Osburn (1988) related a high degree of parental approval *perceived by school administrators*. Administrators perceived a 100 percent favorable or strongly favorable attitude from parents regarding the distant German course offered. While in actuality, parents' approval of the course was 69 percent. (It's important to note that 18 percent of the students in the Hobbs and Osburn research cited a parent as the person most responsible for them enrolling in the distant course.) In the Hobbs and Osburn study parents



also seemed to be aware of problems that arose in the distant course. One-third of the parents were able to cite problems involved in the course.

Although Laube (as cited in Maushak, 1997) found that family assistance did not impact completion or non-completion of distance courses, Garland (as cited in Maushak 1997) cited lack of support from family and peers as a barrier to both distance students who persisted and those who dropped the course. And administrators do recognize the importance of parental support when introducing distance learning courses into the curriculum. Gour (1992) concluded local school boards should pay attention to parents' perceptions and attitudes. His research on implementation of distance learning in districts in Alberta, Canada, where small rural school districts were favored by the communities, recommends that the boards should demonstrate to parents that instruction in conventional settings is not feasible prior to adopting a distance education program. And, in a nationwide survey of 130 school administrators in school districts with 300 students or less, Barker and Hall (1993) gauged the importance of parental support. They found that administrators perceived healthy backing by parents for distance technologies when half the respondents indicated that parents "strongly supported" distance learning.

In a 1999 study of 1,024 students and 481 parents, Witta compared parent and student attitudes about the strengths and weaknesses of distance learning courses. In the four-year study she found that no differences in perceived *strengths* of distance learning classes was found between students and parents when open-ended parent and student responses were studied. However, differences in perceived *weaknesses* were detected based on status (student or parent). In a similar study of differences between student and parents in the *evaluation* of an educational interactive video program, Witta concluded that results

indicated *no* differences in evaluation of the interactive video program between parents and students (Witta, 1999). Parents in the Witta (1999) study reacted positively when asked about their perceptions of the quality of teacher interaction in the child's distance course. On a five-point Likert scale with 1=strongly agree, the mean score in a factor analysis of teacher interaction variables was 1.9.

Although *parent* attitudes were not collected in the Wyoming Department of Education study (1997), students' perceptions *about parental support* were studied. The findings concluded that students *perceived* strong parental support for distance learning programs. Seventy-one percent of the students responded that they believed their parents were "somewhat supportive" or "very supportive." The report stated, "Parents seemed generally supportive of distance learning opportunities being provided to their children."

Hobbs and Osburn (1988) *did* collect data on parent attitudes about their children's distance learning experiences. They found that 69 percent of the parents surveyed carried "very favorable" or "favorable" impressions of a German course via satellite in which their children were enrolled. The majority (58%) of these parents also perceived the distance learning class "harder than a regular class in the same subject." When parents were asked their opinion regarding the future of distance learning 59 percent responded "positive" or "positive with reservations." Fifty-one percent of the parents agreed or strongly agreed that satellite courses might allow the school to avoid or delay consolidation because of the additions to the curriculum. Fifty percent of the parents perceived the enhanced curriculum as a benefit to the satellite course.

Another issue that enters into the discussion of distance learning curricula is teacher compensation for teaching distance courses. The research suggests that there is more teacher

preparation time involved in teaching at a distance (U.S. Congress, Cyrs & Smith, Graf as cited in Sorenson, 1997; Wyoming, 1997). Faculty incentives such as increased pay or reduction in class load are suggested by some (Wyoming, 1997). As the Wyoming research concludes, "...there is a limit to how far goodwill will take you." And further, "It is absolutely essential that faculty and staff receive some form of compensation for the work they devote to distance learning activities" (Wyoming, 1997). Additional researchers have called for the compensation of distance learning instructors (U.S. Congress, Cyrs & Smith, Graf as cited in Sorenson, 1997).

Gour (1992), in his study of rural high school in Canada, offers a different perspective when he writes "...school boards should recognize that distance education imposes unique responsibilities on teachers which must be considered part of their workload." It is safe to say the issue of teacher compensation may be a source of controversy when districts decide to implement distance learning consortia.

Should restrictions be placed on the number of distance courses offered and on the type of student who may take a distance course? -- Another source for potential conflict in distance learning consortium building. The research indicates parents and students have clear ideas about what type of student benefits most from the distance environment. Hobbs and Osburn (1988) found that 55 percent of the parents in their study agreed or strongly agreed that a satellite class required higher ability students; however, 26 percent of the parents were undecided. Eighty-seven percent of the parents in the same study agreed or strongly agreed that the satellite course required that students exhibit more self-motivation. And 83 percent believed that the satellite course required more effort on the part of the student.

Hartz (1983) concluded that *students* enrolled in a distance learning course indicated that “mature and highly motivated” students were more likely to have success in the distance environment. Gour (1992) recommends that school boards contemplating adoption of distance learning curricula should restrict use to secondary students. The Wyoming (1997) study indicated that class ranking appears to be related to student dropout rates: “While only 5% of the student participants who were rated in the top 25% of their class dropped the course he/she was enrolled in, 50% of participants rated in the bottom 25% of their class dropped out of a distance learning course.” And further, “By the end of the spring semester, the vast majority (84%) of students participating in the distance learning program were above average performers academically.” Maushak (1997) also discussed “learner attributes” and their relationship to success in the distance environment. She cites numerous studies that have been completed on a variety of variables (Coggins, 1988; Ross and Powell, 1990; Dille and Mezack, 1991; Garland, 1993 as cited in Maushak, 1997).

In fact, districts *do* place restrictions on students allowed to enroll in distant courses. Seventy percent of the schools in the Hobbs and Osburn study indicated that they placed some restrictions on who or how many students could enroll in the course. Grade level and “ability level” were two criteria used as restrictions. While some districts limit students in distance classes by virtue of their high ability or specific learner characteristics, other programs target students and schools serving educationally disadvantaged or underserved students according to a U.S. Congress report (as cited in Sorenson 1997). The Wyoming research cautions that placing restrictions on the type of student in distance courses brings up the question of access and equity.

A perceived outcome of distance learning consortia on a macro level is the opportunity for improved relations among neighboring school districts. Hartz (1983) mentions “the decreased school chauvanism on the part of the participating students.” According to Hartz, both administrators and students mentioned this factor. In Hartz’s words, “While it is not agreed whether this phenomenon was positive or negative, it was noted that the only other time when many of the students interact had been in athletic competition.”

In a manual produced by The Area Cooperative Educational Services (AGES) Distance Learning Consortium in Hamden, Connecticut the group’s steering and advisory committees cited “non-monetary” outcomes that have been realized through their consortium. One of those outcomes is cooperation among districts which “allow(s) the sharing of expertise and resources” (AGES Distance Learning Consortium Manual, 1995).

While the benefits of “cross-district networks” (Powerful Connections 1997) are recognized, questions about limitations on growth and expansion arise. At the macro level, discussion of restrictions on the quantity and quality of *districts* that are included in a consortium must take place. One advantage of distance learning consortia perceived by students and parents is the opportunity for distance learners to be exposed to people and ideas outside the local district. Yet, is there a point at which growth should be limited?

In a network in southern Maine the superintendents control membership, but open the system to “any district in search of ways to improve the education of their students.” (“Powerful Connections,” 1997). In Wyoming the high level of cooperation and resourcefulness between the consortium members was cited as a benefit. Yet the Wyoming study (1997) concludes that more research is needed regarding the *extent* that their distance

learning pilot project should expand. Issues of management, efficiency and cost-effectiveness grow exponentially as the consortia are expanded.

### Conclusion

Many of Iowa's small schools are facing a crisis. Faced with declining enrollments and shortages of teachers, small schools are searching for efficient solutions to provide quality education for their high school students. At a time when some national trends are emerging that encourage downsizing of mammoth urban school districts, Iowa's small districts are grappling with challenges associated with smallness. At a time when schools across the country are exploring Web-based curricula and other distance learning delivery systems, Iowa may be in a unique position with the existence of the Iowa Communications Network.

Research indicates that student and parent attitudes about distance learning are important for administrators and policymakers as they consider adoption of distance learning alternatives to traditional courses. Decisions about the adoption of distance learning and the implementation of distance learning consortia should be made with input from all stakeholders. Student and parent attitudes about the quality and benefits of distance courses, student-teacher and student-peer relationships in distance courses, restrictions that should be placed on participation in distance courses and compensation for teachers of distance courses are relevant for decisionmakers.

The review of the literature indicates that students generally hold positive attitudes about distance learning. Research conducted in Wyoming, Wisconsin, Texas, Utah, Michigan, North Dakota, Missouri and Kansas indicates that distance learning students are positive about their experiences and enroll in distance courses because of the expanded

opportunities the classes offer. Students and parents believe that distance education will play a role in the future of small school districts across the country. Opportunities for expanded curricula, exposure to diverse ideas and cultures, experimentation with new technologies and the introduction to college level courses were cited as dividends of distance learning.

Not only does the literature support positive attitudes about distance learning; it also reinforces the importance of listening to students and parents when it comes to infusion of distance learning strategies into a learning environment. Researchers have recognized the importance of gathering data from the users themselves. By studying the attitudes of the distance learner, researchers are afforded opportunities to uncover topics for further discussion and study.

The review of the literature highlights issues faced by school districts around the country. Declining enrollments, teacher shortages, lack of curriculum breadth and depth and isolation in small rural districts are challenges faced by districts around the country and are topics for discussion within the education community. The literature addresses needs and concerns and offers evidence that small schools share common challenges. The literature supports the implementation of distance learning strategies as viable models for small rural school districts as policymakers strive to maintain quality.

By recognizing and giving credence to the attitudes of current distance learners and parents of distance learners, administrators and education policymakers become aware of issues that will support or impede moves toward consortium building. If small rural districts in Iowa are to offer high quality education, effective models of resource sharing must be found. If consortium building via distance learning is perceived as an effective model, research is needed to identify ways to efficiently develop, implement and maintain future

designs. The review of the literature supports the importance of exploring student and parent attitudes and gives impetus to future research in distance learning.

The following chapter introduces the methodology used to gather data about student and parent attitudes toward a distance learning consortium model in northwest Iowa.



### **CHAPTER 3: METHODOLOGY**

Two survey questionnaires were used in this research project which explored students' and parents' attitudes about distance learning courses offered via an Iowa Communications Network consortium. The questionnaires were developed based on current issues confronting small schools in Iowa. Preliminary interviews were conducted with administrators and teachers from small school districts to determine issues that concerned them. The role two education-related state agencies, the Department of Education and Iowa Public Television, played in the research and development of regional academies as mandated by the Iowa legislature was influential in the formation of the survey questions. The purpose of the questionnaires was to assess attitudes of students who participate in a distance learning consortium as well as their parents. The study can provide valuable information to both the consortium members, to other small districts seeking answers to challenges surrounding declining enrollments and teacher shortages, and to education policy shapers.

#### **Participants**

The participants in the study were high school students and parents of students who are enrolled in courses offered within a distance learning consortium. The Northwest Iowa ICN Co-op was selected because it consists of small rural schools that have pooled resources and used distance learning to ensure quality education and enhanced educational opportunities. Eight school districts participated in the survey. (Although ten schools make up the consortium, two of the districts did not participate in the study. One district had technical problems with their ICN classroom and therefore did not actively share classes

during the school year under study. Another district did not participate in this study because of health problems encountered by a key administrator.) Students in origination site classrooms and remote classrooms were asked to complete a survey, and their parents were also surveyed. Administrators collected the student responses in sealed envelopes and sent them to the investigator. Students were asked to take surveys to their parents, and parents were provided stamped envelopes to submit their completed surveys to the investigator.

### The Materials

The survey question development was primarily driven by media coverage and current conditions within the state concerning issues facing small school districts. Current literature on the development of attitudinal scales was reviewed (Dwyer, 1993; Sherry, Fulford, Zhang, 1998; Della-Piana, C. & Della-Piana, G., 1994; Tesh, 1992). Two surveys (student and parent) were designed. Questions were designed that would allow participants to convey their attitudes about their participation or their child's participation in ICN classes through the Northwest Iowa ICN Co-op. Each consisted of a five-point Likert-type scale. Participants were asked to select a level indicating their response to the questions. Levels were: strongly agree, agree, undecided, disagree, strongly disagree (Appendix C).

### Procedure

The move by the state legislature in the spring of 2000 to appropriate grant money for the implementation of regional academies which would expand opportunities within high schools and the media coverage of remarks issued by the director of the state department of education about concern for small districts sparked interest in the fate of small schools.

Exploratory phone interviews were conducted and emails were exchanged in the fall of 2000 with teachers and administrators in small rural school districts. The purpose of the

interviews was to learn about issues facing small districts, to become aware of distance learning technologies that were being utilized and to explore cooperative arrangements that were in place. In the course of the phone interviews and email exchanges it became apparent that personnel at small districts were enriching their curricular offerings through distance learning options and some were searching for further opportunities to do so. Preliminary work completed by Iowa Public Television and the Department of Education in fulfillment of the state legislature's mandate to establish regional academies prompted the investigation into current "sharing models" that existed in the state.

State and national media coverage over the previous few years called attention to the Northwest Iowa ICN Co-op and its success at sharing resources. In early fall 2000 interviews were conducted with two of the administrators who were instrumental in formulating the concept of the Northwest Iowa ICN Co-op. In the early spring of 2001, after phone interviews with all ten consortium administrators, a survey was developed. On-site interviews were conducted with five of the ten administrators. The Iowa State University Human Subjects Committee reviewed and approved the study (Appendix D). Permission to distribute surveys was obtained from an administrator at each of the districts. (One administrator declined participation in the study because his site was temporarily dysfunctional as a result of technical problems with the ICN room). The surveys were delivered to two of the sites and left for distribution to students and parents. The remaining sites received their surveys in a packet via the U.S. mail. (One of the administrators who had initially agreed to participate in the study later declined because of health problems.) Subsequent phone interviews and electronic exchanges occurred over the course of the study.

The courses and consortium school districts are listed in Appendix B. Each course consisted of one origination site and at least one remote site. Students (and parents of students) at both origination and remote sites were included in the surveys.

#### Methods of data analysis

The data was analyzed using the statistical package Statistical Package for the Social Sciences (SPSS). Means and standard deviations were calculated. A factor analysis of the variables was conducted.

This chapter presented the methodology of the study including a description of the participants, the materials used in the study, the procedures involved in conducting the study and a description of the data analysis. Chapter 4 presents the results of the data analysis.

## **CHAPTER 4: RESULTS**

This chapter presents the results of the research questions discussed in previous chapters. The findings reported were based upon a survey administered to participants in eight school districts in northwest Iowa that form a consortium which shares resources via the Iowa Communications Network. Students enrolled in shared classes and their parents were surveyed.

When reading the findings it is important to note samples as those used in this study cannot be considered representative of a broad population in statistical analysis. Findings are intended to create an awareness of issues that surround the formation and design of distance learning consortia. Through an awareness of the attitudes of students and parents about the issues, it is hoped that other small school districts and policymakers in Iowa's education community can learn from the results.

One hundred-fifty-five student surveys were sent to eight schools. A return rate of 59 percent was achieved on the student responses with the return of 92 surveys. Each student was asked to take a survey home to a parent. If all the students who completed a survey did indeed take a survey to a parent, 92 parent surveys were distributed. Thirty-six parent surveys were returned via the U.S. mail. Assuming the above, a return rate of 39 percent was achieved on the parent surveys.

The factor analysis supported five constructs for the student survey. The constructs and the applicable questions were:

- 1. Students' attitudes about the benefits and quality of shared (ICN) consortium classes**

Q1 Sharing this class with other districts has been a positive experience.

Q2 This class would be better if it wasn't shared with other schools through the ICN.

Q9 The existence of the Northwest Iowa ICN Co-op has resulted in improved relations between school districts involved in the Co-op

Q12 I would like our district to share more classes with other districts.

**2. Students' attitudes about their relationships with the teacher and peers in shared (ICN) consortium classes**

Q5 My relationship with the teacher is difficult in this class because of the ICN technology

Q6 My relationship with other students is difficult in this class because of the ICN technology.

**3. Students' attitudes about the interest shown by their parents and peers in shared (ICN) consortium classes**

Q7 Other students ask me about my experiences in a shared class.

Q8 My parents ask me about my experiences in a shared class.

**4. Students' attitudes about preparation for college provided by the shared consortium classes.**

Q3 This class will help me in college.

Q4 This class will improve my chances of getting into college.

**5. Students' attitudes of the distance classes as enhanced educational opportunities.**

Q10 Students are reluctant to take courses through the Co-op.

Q11 The classes offered through the Northwest Iowa ICN Co-op improve educational opportunities in my school district.

Table 1 displays the percentages of each response, means and standard deviation for each survey item on the student survey.

**Table 1: Raw Data Student Survey**

|   | Strongly Agree<br>1 | Agree<br>2 | Undecided<br>3 | Disagree<br>4 | Strongly Disagree<br>5 |
|---|---------------------|------------|----------------|---------------|------------------------|
| Sharing this class with other districts has been a positive experience.   | 24%                 | 60         | 13             | 0             | 2                      |
| This class would be better if it wasn't shared with other schools through the ICN.*   | 0%                  | 13         | 20             | 56            | 11                     |
| This class will help me in college.   | 40%                 | 46         | 12             | 2             | 0                      |
| This class will improve my chances of getting into college.   | 11%                 | 50         | 23             | 14            | 2                      |
| My relationship with the teacher is difficult in this class because of the ICN technology.*                                 | 4%                  | 12         | 14             | 54            | 15                     |
| My relationship with other students is difficult in this class because of the ICN technology.*                              | 2%                  | 21         | 19             | 50            | 9                      |
| Other students ask me about my experiences in a shared class.   | 8%                  | 42         | 14             | 29            | 8                      |
| My parents ask me about my experiences in a shared class.   | 2%                  | 46         | 13             | 26            | 12                     |
| The existence of the Northwest ICN Co-op has resulted in improved relations between school districts involved in the Co-op. | 8%                  | 48         | 37             | 6             | 1                      |
| Students are reluctant to take courses through the Co-op.*  | 2%                  | 15         | 32             | 41            | 10                     |
| The classes offered through the Northwest Iowa ICN Co-op improve educational opportunities in my school district            | 25%                 | 62         | 9              | 3             | 1                      |
| I would like our district to share more classes with other districts.   | 25%                 | 47         | 24             | 1             | 2                      |

**Table 1: (continued)**

Mean and Standard Deviation

| Survey Question                               | Mean<br>(1=SA;<br>5=SD) | Std. Dev. |
|---|-------------------------|-----------|
| Sharing is positive                           | 1.95                    | .75       |
| *Class better if NOT shared                   | 2.35                    | .84       |
| Class help me in college                      | 1.76                    | .75       |
| Class improve chances of getting into college | 2.47                    | .94       |
| *Relationship w/ teacher difficult            | 2.36                    | 1.0       |
| *Relationship w/ students difficult           | 2.58                    | .98       |
| Other students ask about class                | 2.86                    | 1.1       |
| Parents ask about class                       | 3.00                    | 1.1       |
| Improved relations between districts          | 2.43                    | .76       |
| *Students reluctant to enroll                 | 2.59                    | .94       |
| Improved opportunities                        | 1.93                    | .75       |
| Would like to share more classes              | 2.07                    | .85       |

\*Negatively-worded reversed

N=91

Research Question 1

To determine the students' attitudes about the quality and benefits of the shared ICN consortium classes in the Northwest Iowa ICN Co-op Research Question 1 was stated as follows: What are students' attitudes about the benefits and quality of shared (ICN) consortium classes?

A total of four items inquired about students' attitudes about the quality and benefits of the shared classes. Each item used a five point Likert scale with 1=strongly agree, 2=agree, 3=undecided, 4=disagree, and 5=strongly disagree. Table 2 shows the mean score. Since the mean score, 2.2 was close to 2=agree, it indicated the students show positive attitudes about the quality and benefits of the shared classes.



**Table 2: Quality & Benefits – Student Survey**

|                                      | <u>Factor</u><br><u>Mean</u> | <u>Question</u><br><u>Mean</u> |
|--------------------------------------|------------------------------|--------------------------------|
| <u>Quality &amp; Benefits</u>        | 2.2                          |                                |
| Sharing is positive                  |                              | 1.95                           |
| *Class better if NOT shared          |                              | 2.35                           |
| Improved relations between districts |                              | 2.43                           |
| Would like to share more classes     |                              | 2.07                           |

\*Negatively-worded reversed

### Research Question 2

To determine the students' attitudes about the relationships with their teacher and other students in the shared classes, Research Question 2 was stated as follows: What are students' attitudes about their relationships with the teacher and peers in shared (ICN) consortium classes? Table 3 shows the mean score. Two items inquired about students' attitudes of their relationships with the teacher and their peers. Since the mean score, 2.47 was close to 2=agree, it indicated the students have a positive attitude about the relationships with the teacher and other students in the shared classes.

**Table 3: Relationships – Student Survey**

|                                     | <u>Factor</u><br><u>Mean</u> | <u>Question</u><br><u>Mean</u> |
|-------------------------------------|------------------------------|--------------------------------|
| <u>Relationships</u>                | 2.47                         |                                |
| *Relationship w/ teacher difficult  |                              | 2.36                           |
| *Relationship w/ students difficult |                              | 2.58                           |

\*Negatively-worded reversed

### Research Question 3

To determine the students' attitudes about the interest shown by their parents and peers in the shared classes, Research Question 7 was stated as follows: What are students' attitudes about the interest shown by their parents and peers in shared (ICN) consortium classes? Two items inquired about students' attitudes about the interest shown by parents and peers in the shared classes. Table 4 shows the mean score. Since the mean score, 2.93 was close to 3=undecided, it indicates students are undecided about the interest their parents and peers have in the shared classes.

**Table 4: Interest – Student Survey**

|                                | <u>Factor</u><br><u>Mean</u> | <u>Question</u><br><u>Mean</u> |
|--------------------------------|------------------------------|--------------------------------|
| <u>Interest</u>                | 2.93                         |                                |
| Other students ask about class |                              | 2.86                           |
| Parents ask about class        |                              | 3.00                           |

### Research Question 4

To determine the students' attitudes about the preparation for college provided by the shared ICN classes, Research Question 4 was stated as follows: What are students' attitudes about preparation for college provided by the shared ICN classes? Two items inquired about attitude of college preparation. Since the mean score, 2.12 was close to 2=agree it indicates students agree that the shared ICN classes prepare them for college.

**Table 5: College Prep – Student Suvery**

|   | <u>Factor<br/>Mean</u> | <u>Question<br/>Mean</u> |
|---|------------------------|--------------------------|
| <u>Preparation for college</u>                | 2.12                   |                          |
| Class help me in college                      |                        | 1.76                     |
| Class improve chances of getting into college |                        | 2.47                     |

**Research Question 5:**

To determine the students' attitudes of the distance classes as enhanced educational opportunities Research Question 5 was stated as follows: What are students' attitudes of the distance classes as enhanced educational opportunities? Two items inquired about attitudes of educational opportunities. Table 6 shows the mean score. Since the mean score 2.26 was close to 2=agree, it indicates students agree that educational opportunities have been enhanced as a result of the ICN shared courses.

Overall, students seem to hold positive attitudes about their participation in an ICN distance learning consortium. Specifically, students were positive about the quality and benefits of the consortium courses. They showed positive attitudes about their relationships with teachers and peers in the distance courses. Students were undecided about the

**Table 6: Educational Opportunities – Student Survey**

|  | <u>Factor<br/>Mean</u> | <u>Question<br/>Mean</u> |
|--|------------------------|--------------------------|
| <u>Educational Opportunities</u>             | 2.26                   |                          |
| *Students reluctant to take distance classes |                        | 2.59                     |
| Classes improve educational opportunities    |                        | 1.93                     |

\*negatively-worded reversed

interest shown by parents and peers in their participation in consortium courses. They were positive in their attitudes about the courses preparing them for college. Students showed positive attitudes about the shared classes enhancing educational opportunities in their districts.

The factor analysis supported two constructs for the parent survey. The constructs and the applicable questions were:

**1. What are parents' attitudes about the benefits and quality of shared (ICN) consortium classes?**

Q1 Our school district offers courses that prepare my child for college.

Q3 Participation in the Northwest Iowa ICN Co-op has improved the quality of education in our school district.

Q7 The existence of the Northwest Iowa ICN Co-op has resulted in improved relations between school districts involved in the Co-op.

Q11 I would recommend an ICN co-op for other small school districts.

**2. What are parents' attitudes about the need for limitations on the extent and makeup of shared (ICN) consortium classes that a district offers?**

Q6 Students who participate in shared classes should be carefully selected.

Q10 There is no limit to the number of course offerings that could be offered by the Northwest ICN Co-op.

Q12 My child's experiences in a shared class are as good as his/her experiences in a regular class.

Table 6 displays percentage of responses, means and standard deviation for each survey item on the parent survey.

**Table 6: Raw Data Parent Survey**

|   | SA<br>1 | A<br>2 | U<br>3 | D<br>4 | SD<br>5 |
|---|---------|--------|--------|--------|---------|
| Our school district offers courses that prepare my child for college.   | 25%     | 61     | 3      | 8      | 0       |
| Participation in the Northwest Iowa ICN Co-op has improved the quality of education in our school district.                 | 17%     | 59     | 17     | 8      | 0       |
| Students who participate in shared classes should be carefully selected.  | 3%      | 28     | 36     | 28     | 6       |
| The existence of the Northwest ICN Co-op has resulted in improved relations between school districts involved in the Co-op. | 0       | 47     | 44     | 8      | 0       |
| There is no limit to the number of course offerings that could be offered by the Northwest ICN Co-op.*                      | 3%      | 17     | 33     | 39     | 6       |
| I would recommend an ICN co-op for other small school districts.  | 17%     | 78     | 3      | 3      | 0       |
| My child's experiences in a shared class are as good as his/her experiences in a regular class.                             | 8%      | 64     | 17     | 6      | 6       |

**Means and Standard Deviations**

| Survey Question                      | Mean (1=SA; 5=SD) | Std. Dev. |
|--------------------------------------|-------------------|-----------|
| District prepares child for college  | 1.94              | .80       |
| Improved quality of education        | 2.16              | .81       |
| Students selected                    | 3.05              | .95       |
| Improved relations between districts | 2.61              | .64       |
| *No limit to # of courses            | 3.28              | .92       |
| Recommend ICN co-op                  | 1.91              | .55       |
| Shared class as good as regular      | 2.36              | .93       |

\*Negatively-worded, reversed

N = 36

The research questions and the applicable questions for the parent survey are included below with the results for each:

**Research Question 5**

To determine the parents' attitudes about the quality and benefits of the shared ICN consortium classes in the Northwest Iowa ICN Co-op Research Question 5 was stated as

follows: What are parents' attitudes about the benefits and quality of shared (ICN) consortium classes?

A total of four items inquired about parents' attitudes about the quality and benefits of the shared classes. Each item used a five point Likert scale with 1=strongly agree, 2=agree, 3=undecided, 4=disagree, and 5=strongly disagree. Table 7 shows the mean score. Since the mean score 2.15 was close to 2=agree, it indicated the parents held positive attitudes about the quality and benefits of the courses in the ICN consortium.

**Table 7: Quality & Benefits – Parent Survey**

|                                      | <u>Factor<br/>Mean</u> | <u>Question<br/>Mean</u> |
|--------------------------------------|------------------------|--------------------------|
| <u>Quality &amp; Benefits</u>        | 2.15                   |                          |
| Improved quality of education        |                        | 2.16                     |
| Improved relations between districts |                        | 2.61                     |
| District prepares for child college  |                        | 1.94                     |
| Recommend ICN co-op                  |                        | 1.91                     |

#### Research Question 6

To determine the parents' attitudes about the needs for limitations on the extent and makeup of shared consortium classes that a district offers, Research Question 6 was stated as follows: What are parents' attitudes about the need for limitations on the extent and makeup of shared (ICN) consortium classes that a district offers? Table 8 shows the mean score.

Three items inquired about parents' attitudes of limitations that should be placed on consortium classes. Since the mean score, 2.89 was close to 3=undecided, it indicated the

**Table 8: Limitations – Parent Survey**

|                                | <u>Factor<br/>Means</u> | <u>Question<br/>Means</u> |
|--------------------------------|-------------------------|---------------------------|
| Limitations                    | 2.89                    |                           |
| ICN classes as good as regular |                         | 2.36                      |
| Students selected              |                         | 3.05                      |
| *No limit to # of courses      |                         | 3.28                      |

\*Negatively-worded, reversed

parents were undecided about the issue of placing limitations on consortium building and the type of students who should enroll in consortium classes.

Overall, parents seem to be undecided in their attitudes toward the school district's membership in the consortium. However, parents are positive in their attitudes about the quality and benefits of the courses offered through the consortium. They were undecided about whether limitations should be placed on the extent and makeup of the courses.

This chapter summarized the results of the survey. The following chapter will discuss the results and implications for future studies.

## **CHAPTER 5: DISCUSSION**

This chapter will present a brief summary of the study. Discussion of results and future research is included.

### Summary

This descriptive study was designed to focus on the Northwest Iowa ICN Co-op, a consortium of small school districts in northwest Iowa. Students who are enrolled in courses offered through the distance education consortium were surveyed to examine their attitudes about their experiences in consortium classes. Parents of the students were also surveyed to determine their attitudes about their child's experiences in consortium classes. SPSS software was used to determine means, standard deviations and factor clusters.

### Discussion of the Results

Seven research questions were developed and explored. Due to the size of the sample, the mentioned generalizations can only be made with caution. The results of this study have generated insights into the overall attitudes of students and parents about participation in a distance education consortium. The results are discussed below:

Students were generally positive about their experiences in the distance classes. Sixty per cent agreed that sharing classes was a positive experience. Fifty-six per cent strongly disagreed with the statement that the class would be better if it was not shared. Eighty-six per cent of the students agreed or strongly agreed that the class would help them in college. Sixty-one per cent agreed or strongly agreed that the class would improve their chances of getting into college. Fifty-four disagreed with the statement that the relationship with the teacher was difficult because of the ICN technology. Fifty per cent of the students disagreed with the statement that the relationship with other students was difficult because of the ICN



technology; however, 21 per cent agreed with this statement. Forty-two percent of the students agreed that other students ask about their experiences in the distance class; and forty-six per cent agreed that their parents ask about their experiences. Forty-eight per cent of the students agreed that the Co-op had resulted in improved relations with other schools involved in the Co-op. Forty-one per cent disagreed that students are reluctant to take courses through the Co-op. Eighty-seven per cent agreed or strongly agreed that the classes offered in the distance learning Co-op improved educational opportunities in the district. Yet that number dropped when asked if they would like to share more classes. Seventy-two per cent agreed or strongly agreed that they would like to share more classes; however, 24 per cent were undecided.

Overall, students were positive in their attitudes toward participation in a distance learning consortium. They express positive attitudes about the quality and benefits of the consortium; they feel the relationships with their teachers and peers in the shared classes are positive; they express positive attitudes about the enhanced educational opportunities afforded as a result of the consortium. Only in response to the interest shown by parents and peers were student respondents undecided.

Parents showed positive attitudes about college preparation offered in the Co-op districts; eighty-six per cent agreed or strongly agreed that their district offered courses that prepare a child for college. Seventy-six per cent agreed or strongly agreed that the Co-op improved the quality of education in their district. Parents were undecided about selecting students for distance classes (36 per cent); however, 28 per cent agreed and 28 per cent disagreed with the statement. Parents agreed that the Co-op has improved relations among the schools in the consortium; but 44 per cent are undecided. Thirty-nine per cent agreed that

there are no limits to the number of classes that could be shared via the ICN; 33 per cent were undecided. Ninety-five per cent recommend an ICN co-op for other small schools. Sixty-four per cent agreed that their child's experiences in a shared class were as good as his/her experiences in a regular class.

Overall, parents seem undecided about their attitudes toward their child's participation in a distance learning consortium. In an examination of the questions that directly applied to the quality and benefits of the consortium classes, however, parents exhibited positive attitudes.

A number of factors may contribute to the indecisiveness and low return of surveys by parents involved in the study. Most of the districts participating in the consortium have been involved for several years. It may be that parents (and students) are "jaded" and don't perceive the consortium as an innovative, out-of-the-ordinary experience in the education experience. Students and parents in those districts may take for granted the opportunity to take these courses. It may not impact the parents that, if not for the consortium, these classes may not be available to their children. In those cases parents who completed the surveys may perceive the classes in the same light as traditional classes and therefore not exhibit strong attitudes one way or another.

Two administrators mentioned that parents may not be aware of the existence of the Co-op. They may not see the "big picture" of the consortium. In fact, it would be interesting to question if the parents are even aware that the ICN classes are part of a "bigger picture" – i.e. the consortium agreement among the districts. If researchers asked parents about a specific class which is offered through the consortium, it's questionable whether the parent would be aware that a child is taking the class through a consortium arrangement. As long as

a child is able to take calculus, it may not register with the parent that it is available ONLY because of the Co-op. Students may not even mention to their parents that the class is taken via the ICN.

The uncertainty of the “awareness issue” is confirmed by the responses of the students when asked about the interest shown by their parents and peers in their experiences in the consortium classes. Students reported they were undecided about the degree of interest shown by parents and peers.

Parents also may be indecisive about distance education opportunities if concerns about curricular offerings are not currently an issue in their district. While the concerns surrounding small schools such as quality and access to opportunities are being discussed in Des Moines, they may not be seriously discussed at the local levels. Or if they are being discussed at the local levels, it may be a subject that is taken seriously at the administrative levels in the district but not considered a concern by students or parents. If radical changes within the district were perceived by parents as an imminent concern, and if they realized that some of their child’s classes were available only because of the existence of the Co-op, they may have VERY strong attitudes about those classes. In that case, responses to the survey questions may have been more decisive.

It should be noted that parents responded very favorably to the questions about the quality and benefits of the shared classes. While the parent responses revealed uncertainty about limitations on the extent and makeup of shared ICN classes, indecisiveness was not a factor in how parents responded to the quality and benefits of the consortium classes. This would indicate that the parents who completed the surveys are very satisfied with the quality of education their local district offers.

It is also important to note that the sampling of parents was small. Only 36 parents returned surveys. It's not known how many students actually took surveys home to parents. The factor analysis did not support the original constructs on the parent survey. Therefore, the results of the parents' survey are not conclusive.

A review of the existing literature confirms that education leaders and policymakers should be aware of topics of concern/interest in the distance learning arena as they explore the implementation and/or expansion of distance learning strategies. Areas of relevance as identified by the review of the literature are: quality and benefits of distance learning courses, student/teacher and student/student relationships, restrictions placed on students who are allowed to enroll in distance courses, degree of collaboration among sites, compensation for teachers of distance courses and expanded opportunities for students.

Based on the review of the literature and the results of this study, it may be assumed that consortium building for the sake of providing quality education and expanded opportunities is a viable strategy for small rural schools in Iowa. Students generally look positively on their experiences in distance classes. Parents hold positive attitudes about the quality and benefits of distance classes for their children.

As small schools in Iowa and other parts of the country struggle to maintain high quality education for high school students in rural areas, distance learning consortia are models worthy of study. From the results of this study which indicated positive attitudes of students in the Northwest Iowa ICN Co-op it can be assumed that consortium building is a viable model for other small districts.

### Recommendations for Future Research

1. Studies of other distance education consortia in the state of Iowa should be conducted to evaluate similar models. Additionally, studies of consortia that are NOT geographically close should be conducted to assess attitudes of parents and students.
2. A preassessment should be conducted to assess *awareness of issues* among parents and possibly students so that questions about consortium courses can be placed within a context of knowledge.
3. A study should be made of distance learning classes that are NOT consortium based.
4. Future studies might *compare* parents' and students' attitudes about common issues to determine how they relate.
5. Due to the limitations of the parent sample size, the results of the study could be strengthened by using a larger number of participants and by expanding the scope of the survey. (It should be noted that in this study close to 100 per cent of the parent responses were completed by female respondents. Future studies should explore attitudes of *both* parents.)

### Conclusion

Many small rural school districts in Iowa are faced with looming challenges surrounding quality of education and access to opportunities. Many are searching for creative options that will ensure high quality of education, accessibility to opportunities and expanded course offerings. This research attempted to study a distance learning consortium project which has expanded educational opportunities and access to previously inaccessible courses. Attitudes of students and parents were studied in order to give administrators and education policymakers insight into the issues surrounding the formation of distance education

consortia as a means of ensuring quality educational opportunities in small rural school districts. Decisions about the future of small school districts in the state based upon solid research studies and program evaluations of existing models makes sense.

**APPENDIX A: NORTHWEST IOWA ICN CO-OP MEMBERS**

| District<br>Name       | # Students<br>9-12 |
|------------------------|--------------------|
| Battle Creek/Ida Grove | 287                |
| Galva-Holstein         | 197                |
| Hinton                 | 197                |
| Kingsley-Pierson       | 156                |
| Maple Valley           | 306                |
| Odebolt-Arthur         | 149                |
| Remsen Union           | 123                |
| Rockwell City-Lytton   | 196                |
| Woodbury Central       | 213                |

**APPENDIX B: NORTHWEST IOWA ICN CO-OP SCHEDULE**



[illegible]

## 2001-02 ICN CLASSES

[illegible]

**APPENDIX C: SURVEYS**

**Student Survey**

1. Sharing this class with other districts has been a positive experience.  
strongly agree    agree    undecided    disagree    strongly disagree
2. This class would be better if it wasn't shared with other schools through the ICN.  
strongly agree    agree    undecided    disagree    strongly disagree
3. This class will help me in college.  
strongly agree    agree    undecided    disagree    strongly disagree
4. This class will improve my chances of getting into college.  
strongly agree    agree    undecided    disagree    strongly disagree
5. My relationship with the teacher is difficult in this class because of the ICN technology.  
strongly agree    agree    undecided    disagree    strongly disagree
6. My relationship with other students is difficult in this class because of the ICN technology.  
strongly agree    agree    undecided    disagree    strongly disagree
7. Other students ask me about my experiences in a shared class.  
strongly agree    agree    undecided    disagree    strongly disagree
8. My parents ask me about my experiences in a shared class.  
strongly agree    agree    undecided    disagree    strongly disagree
9. The existence of the Northwest ICN Co-op has resulted in improved relations between school districts involved in the Co-op.  
strongly agree    agree    undecided    disagree    strongly disagree
10. Students are reluctant to take courses through the Co-op.  
strongly agree    agree    undecided    disagree    strongly disagree
11. The classes offered through the Northwest Iowa ICN Co-op improve educational opportunities in my school district.  
strongly agree    agree    undecided    disagree    strongly disagree
12. I would like our district to share more classes with other districts.  
strongly agree    agree    undecided    disagree    strongly disagree

**Parent Survey**

1. Our school district offers courses that prepare my child for college.  
strongly agree    agree    undecided    disagree    strongly disagree
2. The Northwest Iowa ICN Co-op, which offers shared courses to students in several schools, is a positive alternative to consolidation.  
strongly agree    agree    undecided    disagree    strongly disagree
3. Participation in the Northwest Iowa ICN Co-op has improved the quality of education in our school district.  
strongly agree    agree    undecided    disagree    strongly disagree
4. School districts located outside Northwest Iowa should not be encouraged to join the NW Iowa ICN Co-op.  
strongly agree    agree    undecided    disagree    strongly disagree
5. Teachers should be compensated for teaching shared classes.  
strongly agree    agree    undecided    disagree    strongly disagree
6. Students who participate in shared classes should be carefully selected.  
strongly agree    agree    undecided    disagree    strongly disagree
7. The existence of the Northwest Iowa ICN Co-op has resulted in improved relations between school districts involved in the Co-op.  
strongly agree    agree    undecided    disagree    strongly disagree
8. Without the existence of the Northwest Iowa ICN Co-op, our school district would have had to consolidate with another district.  
strongly agree    agree    undecided    disagree    strongly disagree
9. Our district should be willing to expand the course offerings that could be offered by the Northwest Iowa ICN Co-op if it meant staving off consolidation.  
strongly agree    agree    undecided    disagree    strongly disagree
10. There is no limit to the number of course offerings that could be offered by the Northwest ICN Co-op.  
strongly agree    agree    undecided    disagree    strongly disagree
11. I would recommend an ICN co-op for other small school districts.  
strongly agree    agree    undecided    disagree    strongly disagree
12. My child's experiences in a shared class are as good as his/her experiences in a regular class.  
strongly agree    agree    undecided    disagree    strongly disagree

**APPENDIX D: PERMISSION FROM HUMAN SUBJECTS COMMITTEE**

IOWA STATE UNIVERSITY<sup>58</sup>  
OF SCIENCE AND TECHNOLOGY

**Human Subjects Research Office**  
221 Beardshear Hall  
Ames, IA 50011  
515/294-4566  
FAX: 515/294-8000

**DATE:** January 8, 2001

**TO:** Cheryl Mullenbach

**FROM:** Janell Meldrem, IRB Administrator

**RE:** "The Northwest Iowa ICN Co-op: A Model for Small Schools" IRB ID 01-287

**TYPE OF APPLICATION:** ☒ New Project ☐ Continuing Review ☐ Modification

The project, "The Northwest Iowa ICN Co-op: A Model for Small Schools" has been approved for one year from its IRB approval date January 8, 2001. University policy and Federal regulations (45 CFR 46) require that all research involving human subjects be reviewed by the Institutional Review Board (IRB) on a continuing basis at intervals appropriate to the degree of risk, but at least once per year.

Any modification of this research project must be submitted to the IRB for prior review and approval. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires).

You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

You are expected to make sure that all key personnel who are involved in human subjects research complete training prior to their interactions with human subjects. Web based training is available from our web site.

Ten months from the IRB approval, you will receive a letter notifying you that the expiration date is approaching. At that time, you will need to fill out a Continuing Review Form and return it to the Human Subjects Research Office. If the project is, or will be finished in one year, you will need to fill out a Project Closure Form to officially end the project.

Both of these forms are on the Human Subjects Research Office web site at:  
<http://grants-svr.admin.iastate.edu/VPR/humansubjects.html>.

**APPENDIX E: LETTER OF INTRODUCTION TO ADMINISTRATORS**



[Return address]  
November 5, 2000

[Inside address]

Dear \*\*\*\*\*

Recently Iowans have been hearing a great deal of debate about the status of the state's small school districts. Legislators, journalists and educators are concerned with the quality of education and the availability of teachers at small high schools. The search is on for creative solutions to the issues confronting Iowa's small districts.

School consolidation is again being debated, as it has been frequently in Iowa's history. But today when it is mentioned, consolidation doesn't necessarily suggest closing buildings and moving students. As small districts explore options, creative alternatives have been implemented. The Northwest Iowa ICN Co-op is an example.

As a graduate student at Iowa State University I would like to explore the history and experiences of the Co-op as the subject of my thesis. Schools around the state are looking for models of successful "consolidation." In my initial stages of research, the Northwest Iowa ICN Co-op was brought to my attention. After several conversations with XXXXXX, I have identified the Co-op as a model from which we can all learn.

Dr. Gary Phye, associate professor of curriculum and instruction, is directing my research. I will design instruments for data collection that consist of educator, student and parent surveys. Classroom observations also may be utilized for purposes of gathering data. The purpose of this letter is to request your permission to conduct research at your site. Please respond to me via email: [email address] or by phone in the evenings at [phone number].

Sincerely,

Cheryl Mullenbach

**APPENDIX F: CONSENT FORM**

January 20, 2001

Dear Student:

Iowa's small rural schools are facing an uncertain future as student populations decline and the pool of certified teachers dwindles. Creative solutions to the challenges faced by Iowa's rural districts are being explored. The Northwest Iowa ICN Co-op serves as a model for other small districts in the state.

As a part of my Master of Science thesis at Iowa State University, I am conducting a study of the Co-op. Your response to the attached survey will help me in my research.

Your responses to this survey are completely voluntary and nonparticipation will not affect evaluations of the Northwest Iowa ICN Co-op. However, your district name and class title will be identifiable to me. I will be the sole researcher on the project. The individual responses gained through the survey will not be revealed. To ensure confidentiality of your responses, please seal your survey in the attached envelope. Your teacher will collect the sealed envelope and will send it unopened to me. Completion of the survey should take about 10 minutes of your time.

If you are willing to complete this survey, please sign your name to the bottom of this form and enclose it with your completed survey. If you have questions, call me at 515-261-7097. Email me at [cmullenbach@home.com](mailto:cmullenbach@home.com), or write me at 802 E. Washington, Des Moines, IA 50316

Sincerely,

Cheryl Mullenbach

Signature: \_\_\_\_\_

Date:

January 20, 2001

Dear Parent:

Iowa's small rural schools are facing an uncertain future as student populations decline and the pool of certified teachers dwindles. Creative solutions to the challenges faced by Iowa's rural districts are being explored.

Your child is enrolled in a class offered by The Northwest Iowa ICN Coop, a group of schools that shares classes using the Iowa Communications Network (ICN). The Co-op serves as a model for other small districts in the state.

As a part of my Master of Science thesis at Iowa State University, I am conducting a study of the Co-op. Your response to the attached survey will help me in my research.

Your participation is completely voluntary and nonparticipation will not affect evaluations of the Northwest Iowa ICN Co-op. I will be the sole researcher on the project. The individual responses gained through the survey will not be revealed. To ensure confidentiality of your responses, please seal your survey in the attached envelope and drop it in the mail. Completion of the survey should take about 10 minutes of your time.

If you are willing to complete this survey, please sign your name to the bottom of this form and enclose it with your completed survey. If you have questions, call me at 515-261-7097. Email me at [cmullenbach@home.com](mailto:cmullenbach@home.com), or write me at 802 E. Washington, Des Moines, IA 50316

Sincerely,

Cheryl Mullenbach

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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